

## REMARKS

With this Response claims 1, 11, and 21 are amended herein. No claims are currently added or canceled. Therefore, claims 1-30 are pending.

### Claim Rejections - 35 U.S.C. § 103

#### Claims 1-2, 4-7, 11-12, and 14-17

Claims 1-2, 4-7, 11-12, and 14-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,692,155 issued to Iskiyan et al. (*Iskiyan*) in view of U.S. Patent No. 5,890,537 issued to Kern et al. (*Kern*) and U.S. Patent No. 6,360,306 issued to Bergsten (*Bergsten*). Applicants respectfully submit that the claims are not rendered obvious by the cited references for at least the following reasons.

Claim 1 as amended recites the following:

- providing a plurality of distributed object storage managers "DOSMs" for receiving requests for files;
- providing at least three intelligent storage nodes accessible to said DOSMs over a network interconnecting the DOSMs and the storage nodes;**
- storing at least one file in a first intelligent storage node accessed via a DOSM over said network;
- storing a duplicate of said file in a second intelligent storage node accessed via said network;
- entering a failover condition to cease use of said first intelligent storage node;
- determining, at said DOSM, a location for said file in said second intelligent storage node;
- identifying said second storage node as said location for said file; and
- accessing, via said network, said file stored in said second intelligent storage node in response to a subsequent file request.

Claim 11 similarly recites multiple storage nodes accessible to a plurality of DOSMs over a network.

The cited references discuss storage controllers connected to storage, and the storage controllers connected to each other. Even assuming the storage controllers may be interpreted as

DOSMs as recited in the claims, which Applicants do not concede, the cited references fail, either alone or in combination, to disclose or suggest multiple storage nodes accessible to a plurality of DOSMs over an interconnecting network. Because the cited references fail to disclose at least this element of the claimed invention, the references fail to support a prima facie case of obviousness under MPEP § 2143 for claims 1 and 11.

Claims 2 and 4-7 depend from claim 1. Claims 12 and 14-17 depend from claim 11. When an independent claim is nonobvious, any claim depending from it is also nonobvious. MPEP § 2143.03. Therefore, Applicants respectfully submit that these claims are not rendered obvious by the cited references for at least the reasons set forth above with respect to the independent claims.

Claims 3, 8-10, 13, and 18-20

Claims 3, 8-10, 13, and 18-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Iskiyan*, *Kern*, and *Bergsten* in view of several references. Specifically, claims 3 and 13 in view of RFC0917: Internet Subnets, 1984, ACM, pages 1-17 of Mogul (the *Mogul* article); claim 18 in view of U.S. Patent No. 5,506,984 issued to Miller (*Miller*); claims 9 and 19 in view of U.S. Patent No. 6,256,673 issued to Gayman (*Gayman*); and claims 8, 10, and 20 in view of Computer Dictionary Third Edition, 1997, Microsoft Press, page 377 (the *MS Computer Dictionary*). Applicants note that a substantial effort was required of the Examiner to provide the complete and thorough examination presented in the Final Office Action, especially considering the numerous cited references. Applicants thank the Examiner for this effort.

Applicants nevertheless respectfully submit that the claims are not rendered obvious by the cited references for at least the following reasons. As set forth above, the primary references, *Iskiyan*, *Kern*, and a *Bergsten*, fail alone or in combination to disclose the invention as recited in

the independent claims 1 and 11. Applicants respectfully submit that the additional references, the *Mogul* article, *Miller, Gayman*, and the *MS Computer Dictionary* fail to cure the deficiencies of the primary cited references noted above. The cited references fail to disclose or suggest at least multiple storage nodes accessible to a plurality of DOSMs over an interconnecting network, and so fail to disclose the invention as recited in claims 1 and 11. Because claims 3 and 8-10 depend from claim 1, and claims 13 and 18-20 depend from claim 11, Applicants respectfully submit that these claims are not rendered obvious by the cited references for at least the reasons set forth above with respect to the independent claims.

Claims 21-22 and 24-27

Claims 21-22 and 24-27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Iskiyan* in view of *Kern*. Applicants respectfully submit that the claims are not rendered obvious by the cited references for at least the following reasons.

Claim 21 as amended recites the following:

a network;  
**a first directory, remote from a requesting client and from an associated intelligent storage node, accessed via said network**, for storing file system information associated with said intelligent storage node having multiple storage devices;  
a second directory, accessed via said network, for storing a duplicate of said file system information; and  
at least one distributed directory manager (DDM) for accessing, via said network, said file system information stored in said first directory in response to a file system request, for entering a failover condition to cease access to said file system information in said first directory, for determining a location for said file system information in said second directory, and for accessing, via said network, said file system information stored in said second directory in response to a subsequent file request.

The Final Office Action at page 9 asserts that the first storage of *Iskiyan* discloses a first directory as recited in claim 21. Applicants are unable to understand how a storage is purported to disclose a directory. Applicants submit that a storage does not necessarily include a directory,

as seems to be implied in the Final Office Action. Even assuming a directory were necessarily implied, which Applicants do not concede, *Iskiyan* and *Kern* fail to disclose, whether alone or in combination, a directory remote from a requesting client and from an associated storage node, as recited in claim 21. Because the cited references fail to disclose at least this element of the claims, Applicants respectfully submit that the references fail to render obvious the invention as claimed.

Claims 22 and 24-27 depend from claim 21. Because dependent claims necessarily include the limitations of the claims from which they depend, Applicants respectfully submit that these claims are not rendered obvious for at least the reasons set forth above with respect to claim 21.

Claims 23 and 28-30

Claims 23 and 28-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Iskiyan* and *Kern* in view of several references. Specifically, claim 23 and 13 in view of the *Mogul* article; claim 28 in view of *Miller*; claim 29 in view of *Gayman*; and claim 30 in view of the *MS Computer Dictionary*. Applicants respectfully submit that the claims are not rendered obvious by the cited references for at least the following reasons.

Claims 23 and 28-30 depend from claim 21, discussed above. Applicants note that as shown above, *Iskiyan* and *Kern* fail to render obvious the invention as recited in claim 21. The cited references fail to cure the deficiencies of *Iskiyan* and *Kern* noted above. Specifically, whether alone or in combination, the cited references fail to disclose or suggest at least a directory remote from a requesting client and from an associated storage node, as recited in claim 21. Because the references fail to render obvious independent claim 21, Applicants respectfully

submit that claims 23 and 28-30, which depend from claim 21, are likewise not rendered obvious.

**Conclusion**

For at least the foregoing reasons, Applicants submit that all rejections have been overcome. Therefore, Applicants submit that all pending claims are in condition for allowance and such action is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the above-referenced application.

Please charge any shortages and credit any overcharges to our Deposit Account number 02-2666.

Respectfully submitted,  
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